

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF TEXAS

HOUSTON DIVISION

GEORGIA FIREFIGHTERS' PENSION
FUND, Individually and on Behalf of All
Others Similarly Situated,

Plaintiff,

v.

ANADARKO PETROLEUM
CORPORATION, *et al.*,

Defendants.

§ Civil Action No. 4:20-cv-00576

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EXPERT REBUTTAL REPORT OF BJORN I. STEINHOLT, CFA



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I. BACKGROUND

1. On October 1, 2021, I submitted an expert report in this case in support of class certification that included various analyses demonstrating that new and material information about Anadarko Petroleum Corporation's ("Anadarko" or the "Company"; together with the individual defendants, "Defendants") common stock during the period from February 20, 2015 through May 2, 2017, inclusive (the "Class Period"), was widely disseminated to the market, analyzed by market participants, and traded on, causing the information to be quickly reflected in the Company's stock price.¹ Specifically, I concluded that (a) the market in which Anadarko's common stock traded throughout the Class Period was impersonal, open, well developed, and efficient in that the prices reflected new, material information as it became publicly available, and that, therefore, (b) it was reasonable for investors to rely on the integrity of the market price of Anadarko's common stock during the Class Period as reflecting the publicly available information.² Furthermore, I also concluded that class-wide damages can be calculated in this case using the widely accepted event study methodology, and, if necessary, fundamental valuation principles.³

2. On November 17, 2021, I was deposed by Defendants' counsel in this matter (the "Steinholt Deposition").

3. I have now been asked to review and discuss an expert report submitted by Defendants' expert Allen Ferrell, Ph.D., dated December 10, 2021 ("Ferrell Report").

4. This report is based on the information I have reviewed to date. I understand that discovery is still ongoing and that additional information may become available. As a result, I

¹ Expert Report of Bjorn Steinholt, CFA, dated October 1, 2021 (the "Steinholt Report"), ¶¶19-52, 60.

² *Id.*, ¶60.

³ *Id.*, ¶¶53-59, 61.

reserve the right to amend, refine, or modify my opinion and report, including in the event any additional information or analysis becomes available to me.

II. SUMMARY OF THE FERRELL REPORT

5. In his report, Dr. Ferrell does not dispute my opinion that the market for Anadarko's common stock during the Class Period was efficient. This was the primary focus and opinion in the Steinholt Report. In fact, Dr. Ferrell states:

As stated in the Steinholt Report, Anadarko common stock traded in an efficient market during the purported Class Period. For the purposes of my analysis, I have assumed that Anadarko common stock traded in an efficient market during the purported Class Period.⁴

6. Unlike my report, Dr. Ferrell's primary focus is on price impact. First, he opines that on "18 out of the 21 alleged misstatement dates identified in the Complaint, there was no statistically significant price increase," and that on the remaining three alleged misstatement dates, "the Shenandoah disclosures on these dates were stale," so that he "would not expect Anadarko's stock price to react to these Shenandoah disclosures."⁵ This observation is fully consistent with Lead Plaintiff's theory that Defendants concealed the truth through a variety of methods and means, including by "omitt[ing] material facts necessary to make the statements made, in light of the circumstances under which they were made, not misleading," and that "Defendants' omissions of material facts caused Anadarko shares to trade at artificially inflated prices during the Class Period."⁶ More specifically, it is my understanding that, under Lead Plaintiff's theory, Anadarko's stock price was maintained at an artificially inflated level during the Class Period by concealing

⁴ Ferrell Report, ¶22.

⁵ Ferrell Report, ¶17.a.

⁶ Amended Complaint for Violations of the Federal Securities Laws, dated August 17, 2020 (the "Complaint"), ¶94.

the alleged truth and, thereby, preventing Anadarko's stock price from declining as a result of a disclosure of the alleged truth.⁷

7. Second, Dr. Ferrell opines that there "is no reliable economic basis to conclude that the alleged Anadarko May 2, 2017 corrective disclosures about Shenandoah had a price impact on Anadarko's stock price."⁸ Dr. Ferrell's argument relies on the "appeal to ignorance" fallacy, which experts sometimes use to try to shift the burden of proof onto the opposing party.⁹ In other words, the purported absence of a "reliable economic basis" demonstrating price impact is used as proof that there is no price impact. However, Dr. Ferrell did not provide an economic analysis to prove the extent, if any, to which Anadarko's May 3, 2017, price decline was caused by other non-fraud related factors, commonly referred to as confounding factors. Moreover, Dr. Ferrell ignored economic evidence that clearly demonstrates price impact relating to Anadarko's May 2, 2017, Shenandoah disclosures (the alleged "Corrective Disclosure"), including the following evidence discussed in greater detail below:¹⁰

- The suspension of Shenandoah and corresponding \$902 million in write-offs was new, economically material information that, in an efficient market, would be expected to significantly impact Anadarko's stock price.
- Analyst downgrades and price impact for Shenandoah partner Cobalt's stock price relating to Anadarko's Corrective Disclosure.
- Anadarko's stock price declined 4.1% in after-market trading on May 2, 2017, after the Corrective Disclosure, but before the lone confounding factor identified by Dr. Ferrell.

⁷ *Id.*, ¶95.

⁸ Ferrell Report, ¶17.b.

⁹ <https://iep.utm.edu/fallacy/#AppealtoIgnorance> ("The Fallacy of Appeal to Ignorance ...: Not knowing that a certain statement is true is taken to be a proof that it is false.").

¹⁰ Ferrell Report, ¶17.

- An event study that specifically controls for the confounding factor identified by Dr. Ferrell demonstrates that Anadarko's stock price decline on May 3, 2017, was statistically significant, and, thereby, affirmatively demonstrates price impact.

8. Third, Dr. Ferrell claims that the purported “lack of price impact ... is consistent with the economic nature of the disclosures,” because the “market was aware of the inherent riskiness of the appraisal stage of the project.”¹¹ However, during the Class Period, Anadarko valued the Shenandoah asset at \$467 million on its balance sheet (meaning that the Company's future cash flows from this asset was expected to, at a minimum, support this value), and capitalized the drilling costs (meaning that the drilling costs were expected to be expensed against additional future profits), with a book value approaching \$900 million before the write-off.¹² On May 2, 2017, the Company suspended further appraisal work on Shenandoah, resulting in writing off the Shenandoah asset and expensing all drilling costs, totaling \$902 million in write-offs. This demonstrates that Anadarko itself (prior to the write-off) had assigned a substantial economic value to the Shenandoah asset, which logically would have had some negative impact on Anadarko's stock price during the Class Period if the project was suspended and written off (as was the case at the end of the Class Period).

¹¹ *Id.*, ¶17.c.

¹² Anadarko Form 10-K, filed with the SEC on February 17, 2017, at 76 (“Under the successful efforts method of accounting, exploratory drilling costs are initially capitalized pending the determination of proved reserves. If proved reserves are found, drilling costs remain capitalized and are classified as proved properties. For exploratory wells that find reserves that cannot be classified as proved when drilling is completed, costs continue to be capitalized as suspended exploratory drilling costs if there have been sufficient reserves found to justify completion as a producing well and sufficient progress is being made in assessing the reserves and the economic and operating viability of the project.”); APC-00734803-04 (Shenandoah book value as of March 31, 2017).

9. Fourth, Dr. Ferrell incorrectly claims that “Mr. Steinholt testified that it was irrelevant for him to know what Plaintiff’s theory of liability is,”¹³ and that, therefore, how my event study framework applies to different theories “is left entirely unexplained.”¹⁴ Dr. Ferrell misquotes my testimony, which was about a damage expert’s role in independently assessing the existence and/or magnitude of inflation, irrespective of the complaint’s allegations.¹⁵ Further, the specific theory of liability he claims I have not sufficiently addressed is one that Dr. Ferrell made up himself, *i.e.*, the “materialization of an undisclosed risk” theory of liability.¹⁶ Dr. Ferrell’s theory is not found anywhere in the Complaint. In fact, the actual allegation in the Complaint is that Defendants failed to disclose that the “risks had already materialized as to the Shenandoah resource.”¹⁷ Furthermore, Dr. Ferrell does not explain why my framework based on the widely accepted event study methodology (refined by fundamental valuation tools, if necessary) could not be used to estimate the impact of a particular risk materializing. As such, Dr. Ferrell’s criticism should be disregarded.

¹³ Ferrell Report, ¶17.d.

¹⁴ *Id.*, ¶17.d.

¹⁵ Steinholt Deposition at 69:15-25 (“Well, from a damage expert’s point of view, it’s irrelevant what Plaintiffs allege with respect to the inflation, it’s up to the expert to determine what the inflation is. So I would discard any economic claims that are being made in the Complaint and I would look at it myself. And if I think it’s zero, it’s zero, it doesn’t matter what they say in the Complaint.”).

¹⁶ Ferrell Report, ¶17.d.

¹⁷ Complaint, ¶¶98, 116.

III. THE ECONOMIC EVIDENCE DEMONSTRATES PRICE IMPACT

10. In this case, there is no disagreement that Anadarko's common stock traded in an efficient market.¹⁸ Furthermore, there is no dispute that, in "an efficient market, new and material information is quickly incorporated into the stock price."¹⁹ While Dr. Ferrell uses the term "value-relevant," instead of material, these two terms are used interchangeably by experts in securities cases and simply mean that the information had future cash flow implications given that the value of an investment equals the present value of the investment's future cash flows.²⁰

11. The Corrective Disclosure in this case is Anadarko's suspension of further appraisal work on Shenandoah due to lack of commercial viability, resulting in an impairment charge of \$467 million and the write-off of \$435 million of exploratory well costs, totaling \$902 million.²¹ This disclosure was value-relevant (*i.e.*, had negative future cash flow implications). Specifically, it meant that Anadarko no longer expected the future cash flows from the Shenandoah asset to support (a) the \$467 million value of the Shenandoah asset on its balance sheet, or (b) the capitalization of up to \$435 million in exploratory well costs. Consequently, in an efficient market, if this value-relevant information was new when it was disclosed, then it would have had an impact on Anadarko's stock price. As part of my event study, I examined the available evidence and

¹⁸ Ferrell Report, ¶22 ("As stated in the Steinholt Report, Anadarko common stock traded in an efficient market during the purported Class Period. For the purposes of my analysis, I have assumed that Anadarko common stock traded in an efficient market during the purported Class Period.").

¹⁹ Steinholt Report, ¶12; Ferrell Report, ¶21 ("in an efficient market, new relevant information would be expected to impact any company to which such information is value relevant").

²⁰ Steinholt Report, ¶7 fn. 7 ("From an economic point of view, the value of an investment is based on the expected future cash flows of that investment, including the timing and associated risk of those cash flows. Material information, therefore, is information that impacts the future cash flows or the timing or riskiness of the future cash flows.").

²¹ Complaint, ¶152.

concluded that the suspension of further appraisal work on (and write-off of) Shenandoah was, indeed, disclosed, for the first time, after the market closed on May 2, 2017.

12. While Dr. Ferrell states that he conducted several event studies, as described, none was actually designed to address whether the Corrective Disclosure caused a statistically significant price decline in Anadarko's stock price. Instead, Dr. Ferrell focused on information related to an April 17, 2017 explosion in Firestone, Colorado, resulting in an April 26, 2017 disclosure (after the market closed) that Anadarko was shutting down 3,000 wells and news coverage that increased investors' regulatory concerns in Colorado, including additional news coverage on May 2 and May 3 of 2017.²² At most, Dr. Ferrell identified a contributing or confounding factor; however, he failed to perform any event study to determine the extent, if any, to which that contributing or confounding factor explained Anadarko's price decline. I have now performed the appropriate event study to answer that question, discussed below, and even after controlling for the Firestone explosion news identified by Dr. Ferrell, Anadarko's 3.9% abnormal price decline on May 3, 2017, was still statistically significant at the 1% level (a more stringent benchmark than the 5% level used by Dr. Ferrell), thereby providing affirmative evidence of Shenandoah price impact in this case.²³ This is consistent with the fact that Anadarko's stock price declined 4.1% in after-market trading on May 2, 2017, after the Corrective Disclosure, but before the first confounding factor identified by Dr. Ferrell.

²² Ferrell Report, ¶65 & Figure 1.

²³ Dr. Ferrell's 95% confidence interval corresponds to statistical significance at the 5% level, and a 99% confidence interval would correspond to statistical significance at the 1% level. *Id.*, ¶25.

A. Dr. Ferrell's mischaracterization of the Steinholt Report

13. In the Steinholt Report, I analyzed whether the market for Anadarko's common stock was efficient, as defined by the *Cammer* and *Krogman* factors.²⁴ One of these factors, *Cammer* factor 5, states that "it would be helpful" to show "a cause and effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price."²⁵ For *Cammer* factor 5, I performed several analyses, including one in which I conducted an event study showing that the stock price decline following the Corrective Disclosure was statistically significant, consistent with what one would expect in an efficient market.²⁶ That analysis was one piece of one of the factors I considered when concluding that Anadarko's common stock traded in an efficient market. However, this was an analysis of market efficiency in the context of *Cammer* factor 5, not a materiality, loss causation, or full-blown price impact analysis.²⁷

14. To make sure that it was understood that my event study was performed in the context of analyzing market efficiency, which would not require me to isolate the fraud-related component of the price decline, I even explained that "I used these companies to construct a Peer Group for the purposes of analyzing market efficiency," and that "it may be necessary to modify the Peer Group slightly for the purpose of isolating the fraud-related component of a price

²⁴ Steinholt Report, ¶¶12-51.

²⁵ *Id.*, ¶36 (quoting *Cammer v. Bloom*, 711 F. Supp. 1264, 1287 (D.N.J. 1989)).

²⁶ *Id.*, ¶¶43-44.

²⁷ As explained by *Cammer* (also cited in the Steinholt Report): "As previously noted, one of the most convincing ways to demonstrate efficiency would be to illustrate, over time, a cause and effect relationship between company disclosures and resulting movements in stock price. However, as mentioned, such a showing . . . would be difficult because it would require exploration of materiality and causation issues. . . . [P]laintiffs will not be required to delve into such issues at this early stage." *Id.*, ¶20 fn. 23 (quoting *Cammer*, 711 F. Supp. at 1291-92).

movement.”²⁸ At my deposition, I reiterated that that “I did not perform a price impact analysis,”²⁹ and again explained that my analysis related to the “totality of the information disclosed,” which “included Shenandoah, but ... I haven’t analyzed loss causation [and] I haven’t performed a price impact analysis.”³⁰

15. Dr. Ferrell incorrectly claims that “Mr. Steinholt’s suggestion that the alleged corrective disclosures had a price impact is flawed.”³¹ Based on the false premise that my initial analysis focused on price impact, Dr. Ferrell then incorrectly states that my deposition testimony (*supra*, ¶14) amounted to “backtrack[ing],” even though it simply expanded on my analysis in the Steinholt Report (*id.*).³²

16. Dr. Ferrell also incorrectly states that the Steinholt Report “assumed” that “all of the information contained in the alleged corrective disclosures concerning Shenandoah was new,” but that I then “testified [that I] was aware that the disclosure that Shen-6 was a dry hole was not new.”³³ But there is no reference to the Shen-6 appraisal well in the Steinholt Report. Rather, the Steinholt Report referenced Anadarko’s 1Q2017 announcement generally, and then specifically the new information relating to “the Company disclos[ing] that it had suspended further appraisal activities at Shenandoah, taking a \$467 million impairment charge and expensing \$435 million

²⁸ *Id.*, ¶37 fn. 50.

²⁹ Steinholt Deposition at 46:2-3.

³⁰ *Id.* at 47:17-23.

³¹ Ferrell Report, ¶53.

³² *Id.*

³³ *Id.*

related to the project.”³⁴ This specific information about Anadarko suspending further appraisal activities in the Shenandoah, which represents the Corrective Disclosure, was indeed new.

17. Dr. Ferrell continues by incorrectly claiming that I testified that “the disclosures about the suspension of appraisal activity at Shenandoah and the impairment of the value of Shenandoah would have a similar impact on ConocoPhillips.”³⁵ This is a mischaracterization of my testimony and is obviously not true because ConocoPhillips, among other things, was a much larger oil company with much less at stake regarding Shenandoah than the operator Anadarko. This is also reflected in the fact that ConocoPhillips’ write-off was much smaller. Regardless, to support his incorrect statement, Dr. Ferrell references a portion of my deposition testimony where I explain that reviewing events relating to the Shenandoah partners such as ConocoPhillips and Cobalt can be helpful in determining whether the Corrective Disclosure was “unexpected.”³⁶ When asked to explain the relevance of looking at the “reaction” of ConocoPhillips, in this context, I explained that: “Well, for instance, ConocoPhillips had to revise their own earnings as a result of what was disclosed by Anadarko. Had they known that the prior day, they would have already incorporated that into their own write-down.”³⁷ In other words, the “reaction” by ConocoPhillips to the Corrective Disclosure (revising their own earnings disclosed just hours earlier) is evidence that the information disclosed by Anadarko was new or “unexpected” even to ConocoPhillips.

³⁴ Steinholt Report, ¶43.

³⁵ Ferrell Report, ¶53.

³⁶ Steinholt Deposition at 13:15-21 (“Q[:] You said that the corrective disclosure here was unexpected. What’s your basis for saying that? A[:] It’s by reading analyst reports, by reading or by looking at the reaction by the other partners, Cobalt and ConocoPhillips.”).

³⁷ *Id.* at 14:5-10.

18. Dr. Ferrell then incorrectly states that “Mr. Steinholt testified that he was aware that the news linking an Anadarko well to a house explosion in Colorado that was also disclosed after market close on May 2, 2017 would have a similar impact on Noble Energy, yet again he failed to take that into consideration.”³⁸ First, the link between the so-called Firestone explosion and the Anadarko well located 200 feet from the house that burned down was first disclosed after the market closed on April 26, 2017, when Anadarko announced it was shutting down 3,000 wells as a result.³⁹ Following this disclosure, on April 27, 2017, Anadarko’s stock price declined 4.7%.⁴⁰ Second, for the purpose of my market efficiency opinion, it was not necessary for me to estimate how much of Anadarko’s stock price decline on May 3, 2017, was attributable to new information regarding Shenandoah versus any new information regarding the Firestone explosion.

19. In short, any reference by Dr. Ferrell to any analysis by me in the Steinholt Report purportedly related to Shenandoah price impact should be ignored because “I did not perform a price impact analysis.”⁴¹ I performed an analysis of market efficiency, and my opinion that Anadarko stock traded in an efficient market throughout the Class Period is not in dispute.

B. ConocoPhillips’ May 2, 2017 Shenandoah-6 dry hole expense does not provide any additional insight into Shenandoah price impact

20. Dr. Ferrell’s price-impact analysis is flawed because, among other things, his opinion is based on conflating (a) ConocoPhillips taking \$101 million in dry hole expenses, which

³⁸ Ferrell Report, ¶53.

³⁹ April 26, 2017, Bloomberg, “Anadarko Shuts Vertical Wells in Colorado After Home Explosion” (“Anadarko Petroleum Corp. is shutting 3,000 vertical wells across northeast Colorado following a home explosion in the town of Firestone earlier this month.... The blast happened on April 17 in a home 200 feet from where Anadarko operates a vertical well that was drilled by a previous explorer in 1993, The Woodlands, Texas-based company said.”).

⁴⁰ Steinholt Report, Exhibit D at 14.

⁴¹ Steinholt Deposition at 46:2-3.

included the Shenandoah-6 well,⁴² with (b) Anadarko's disclosure that it had suspended further appraisal activities at Shenandoah altogether, resulting in a \$467 million impairment charge and expensing \$435 million related to the project, totaling \$902 million.⁴³ According to Dr. Ferrell:

Anadarko's disclosure after market close on May 2, 2017 that Shen-6 was a dry hole was previously disclosed by ConocoPhillips, a partner of Anadarko in Shenandoah with a similar percentage of ownership in the project, before market open on May 2, 2017. On May 2, 2017, both ConocoPhillips's and Anadarko's stock price reactions were not statistically significant. This indicates that the disclosure that Shen-6 was a dry hole could not have had an impact on Anadarko's stock price on May 2, 2017.⁴⁴

21. First, the May 2, 2017 ConocoPhillips statement regarding Shenandoah was limited to the following sentence: "First-quarter earnings were negatively impacted by \$101 million of pre-tax dry hole expense, which includes the Shenandoah-6 well in the Gulf of Mexico."⁴⁵ A \$101 million expense – *90% less* than Anadarko's \$902 million Shenandoah write-off – would not be expected to cause a statistically significant price decline in ConocoPhillips' stock price given that the impact (\$101 million) represented only 0.2% of its market capitalization⁴⁶ (\$58.74 billion on May 1, 2017), or an impact of only \$0.08 per share. More specifically, for information to have a statistically significant impact on ConocoPhillips' stock price, using Dr. Ferrell's own event study in Table 2, it would have to cause ConocoPhillips' stock price to change by at least 2.16%,⁴⁷ or

⁴² Ferrell Report, ¶17.b.1. & fn. 39.

⁴³ Steinholt Report, ¶43 & fn. 60-61.

⁴⁴ Ferrell Report, ¶17.b.1.

⁴⁵ ConocoPhillips Form 8-K, Exhibit 99.1, filed with the SEC before the market opened on May 2, 2017.

⁴⁶ Market capitalization is the number of shares outstanding multiplied by the stock price. (\$101 million/\$58,740 million = 0.2%).

⁴⁷ For information to have a statistically significant impact on ConocoPhillips' stock price, using Dr. Ferrell's event study in Table 2, the new information would have to cause ConocoPhillips' stock price to change by 2.16% ((-0.75% abnormal return) / (-0.68 t-statistic) * (1.96 statistically

\$1.03 per share,⁴⁸ or have a \$1.27 billion impact on its market capitalization.⁴⁹ A dry hole expense that, at most, would have a pre-tax \$101 million impact on earnings, or \$0.08 per share, is significantly less than the \$1.27 billion, or \$1.03 per share, needed to meet Dr. Ferrell's benchmark for statistical significance. In fact, investors would have to value the information at more than 10 times the expense amount itself for its impact to be detectable by Dr. Ferrell's event study.

22. Second, and even more important, the failure of the Shenandoah-6 appraisal well may be related, but still very different than the new information regarding Anadarko's abandonment of Shenandoah altogether due to its lack of commercial viability, resulting in an Anadarko impairment charge of \$467 million and the write-off of \$435 million of exploratory well costs, totaling \$902 million, disclosed after the market closed on May 2, 2017.⁵⁰ The \$902 million write-off alone represented 2.9% of Anadarko's \$31.54 billion market capitalization, or \$1.61 per share.⁵¹ Assuming that investors valued the information similarly, this is sufficiently large to be detected by a properly designed event study in this case, as I demonstrate below.

23. It should be noted that, for the Shenandoah to be worthwhile exploring, the future expected cash flows from the project would have to exceed the exploration costs and provide Anadarko with a sufficient internal rate of return. Furthermore, the value of Shenandoah, if sanctioned (*i.e.*, developed), would be much greater than the value used by Anadarko for

significant benchmark) = 2.16%), or \$1.03 per share (ConocoPhillips' \$47.48 per share closing price * 2.16), or have an impact on its market capitalization of \$1.27 billion (ConocoPhillips' \$58.735 market capitalization * 2.16%).

⁴⁸ (ConocoPhillips' \$47.48 per share closing price * 2.16% = \$1.03 per share).

⁴⁹ (ConocoPhillips' \$58.735 billion market capitalization * 2.16% = \$1.27 billion).

⁵⁰ Steinholt Report, ¶43 & fn. 60-61.

⁵¹ (\$902 million write-off/Anadarko's \$31,540 million market capitalization = 2.9%).

accounting purposes. According to KLR Group, a “sanctioned Shenandoah development constitutes approximately \$5 per share of incremental fair value.”⁵² While oil prices could have factored into the timing and sanctioning price, that’s a different decision than a full write-down. The Complaint here also alleges Anadarko assured investors in the fall of 2016: “‘you don’t need material commodity price improvement to make money in the Gulf of Mexico.’”⁵³ Further, the WTI oil price on May 3, 2017, of \$47.82 per barrel, was slightly higher than the average during the Class Period of \$46.66 per barrel, and much higher than the low during the Class Period (February 11, 2016) of \$26.21 per barrel. Prior to write-off, Anadarko was projecting higher oil prices,⁵⁴ and one year after the end of the Class Period (May 3, 2018), the WTI price was \$68.43 per barrel.

24. Third, Dr. Ferrell also failed to demonstrate that ConocoPhillips’ mention of the failure of the Shenandoah-6 appraisal well represented new information, the very premise of his analysis of the ConocoPhillips May 2, 2017 price reaction. In this respect, it is important to make a distinction between (a) the Shenandoah-6 appraisal well being dry, information which may have been publicly known prior to the ConocoPhillips May 2, 2017 disclosure, and (b) the Shenandoah-6 sidetrack well being dry, which, as far as I can tell, had not been disclosed prior to the Corrective Disclosure. A May 3, 2017 Cowen analyst report stated that “Anadarko put out disappointing news yesterday afternoon with respect to Shenandoah,” but also explained that the “fact that the

⁵² March 9, 2017, KLR Group analyst report, “Slightly Higher Oil Composition Offsets Higher Operating Expense.”

⁵³ Complaint, ¶135; *see also id.*, ¶¶79, 126-128.

⁵⁴ APC-00092709.

appraisal well was a disappointment became apparent in March,” while the “sidetrack well results is new news and we believe [the sidetrack well being dry] will be a disappointment.”⁵⁵

25. For the above reasons, Dr. Ferrell’s analysis of ConocoPhillips’ May 2, 2017, Shenandoah-6 announcement provides no further insights as to whether the Corrective Disclosure impacted Anadarko’s stock price on May 3, 2017.

C. ConocoPhillips’ price reactions on May 3, 2017 and May 5, 2017, do not provide any additional insight into Shenandoah price impact

26. Dr. Ferrell claims that, “given Anadarko’s and ConocoPhillips’s similar level of ownership in Shenandoah, I would expect new value-relevant Shenandoah information to affect both Anadarko and ConocoPhillips.”⁵⁶ Dr. Ferrell is incorrect. Instead of providing any economic analysis to support his claim, Dr. Ferrell mischaracterizes my deposition testimony, incorrectly claiming that, “[c]onsistent with this, Mr. Steinholt testified that one can look at the price reaction of ConocoPhillips to determine whether disclosures related to Shenandoah would affect Anadarko.”⁵⁷ That was not my testimony as it is obviously not true, given that ConocoPhillips, among other things, was a much larger oil company with much less at stake regarding Shenandoah than the operator Anadarko. At my deposition, I addressed a different issue, that reviewing events relating to ConocoPhillips (as well as Cobalt) can be helpful in determining whether the Anadarko Shenandoah disclosure at the end of the Class Period was “unexpected.”⁵⁸ When asked to explain the relevance of looking at the “reaction” of ConocoPhillips, in this context, I explained that:

⁵⁵ May 3, 2017, Cowen & Co. analyst report, “Shenandoah Results A Negative.”

⁵⁶ Ferrell Report, ¶32.

⁵⁷ *Id.*

⁵⁸ Steinholt Deposition at 13:15-21 (“Q[:] You said that the corrective disclosure here was unexpected. What’s your basis for saying that? A[:] It’s by reading analyst reports, by reading or by looking at the reaction by the other partners, Cobalt and ConocoPhillips.”).

“Well, for instance, ConocoPhillips had to revise their own earnings as a result of what was disclosed by Anadarko. Had they known that the prior day, they would have already incorporated that into their own write-down.”⁵⁹ In fact, on May 4, 2017, ConocoPhillips issued a press release entitled: “ConocoPhillips Provides Update to First-Quarter 2017 Results *Based on Subsequent Partner Disclosures* and Information.”⁶⁰ In other words, the “reaction” by ConocoPhillips to the Corrective Disclosure (revising their own earnings disclosed just hours earlier) is evidence that the information disclosed by Anadarko was new or “unexpected” information even to ConocoPhillips, a Shenandoah partner.

27. To understand why Shenandoah was not as important to ConocoPhillips as to the operator Anadarko, it is helpful to go back to July 16, 2015, when ConocoPhillips announced “that it intend[ed] to reduce future deepwater exploration spending, with the most significant reductions coming from the operated Gulf of Mexico program.”⁶¹ Following its impairment charge for Shenandoah, announced after the market closed on May 4, 2017, ConocoPhillips reported that its exit from deepwater exploration was essentially completed.⁶² Anadarko, on the other hand, was very involved in deepwater exploration and, as one analyst stated, the Shenandoah write-off “does take away from APC’s premium for exploration, which is gone, and no longer in our price

⁵⁹ *Id.* at 14:5-10.

⁶⁰ May 4, 2017, ConocoPhillips Press Release, “ConocoPhillips Provides Update to First-Quarter 2017 Results Based on Subsequent Partner Disclosures and Information” (emphasis added).

⁶¹ July 16, 2015, ConocoPhillips Press Release, “ConocoPhillips Announces Dividend Increase and Reductions in Future Deepwater Exploration Spending.”

⁶² May 4, 2017, ConocoPhillips Press Release, “ConocoPhillips Provides Update to First-Quarter 2017 Results Based on Subsequent Partner Disclosures and Information” (“Following this impairment, the company has no remaining material exposure related to its previously announced exit from deepwater exploration.”).

target.”⁶³ While ConocoPhillips’ working interest (30%) was almost as high as that of Anadarko (33%), Anadarko had an operating interest and substantial control over the project, which resulted in a “control premium,” *i.e.*, greater value as a result of being able to make decisions in line with one’s investment objective.⁶⁴ The difference between the respective economic interests was also reflected in the different impairment charges for ConocoPhillips versus Anadarko. While ConocoPhillips’ Shenandoah leasehold impairment amounted to only \$51 million, Anadarko’s impairment charge related to Shenandoah was \$467 million. Furthermore, ConocoPhillips was a much larger company with a much larger market capitalization (\$58.7 billion) versus Anadarko (\$31.7 billion).⁶⁵ Based on the above, the impact of the Corrective Disclosure would have been expected to be significantly less for ConocoPhillips than it was for Anadarko.

28. On May 4, 2017, ConocoPhillips updated its 1Q2017 results based on the new information regarding Shenandoah disclosed by Anadarko after market on May 2, 2017 (*i.e.*, the Corrective Disclosure).⁶⁶ ConocoPhillips’ update included an additional pre-tax dry hole expense of \$242 million and a leasehold impairment of \$51 million, totaling \$293 million. However, a \$293 million expense would not be expected to cause a statistically significant price decline in ConocoPhillips’ stock price given that the impact (\$293 million) represented only about 0.5% of

⁶³ May 3, 2017, Wolfe Research analyst report, “Mr. Misunderstood – Always left out, never fit in.”

⁶⁴ Jerald E. Pinto, Elaine Henry, Thomas R. Robinson & John D. Stove, *Equity Asset Valuation*, John Wiley & Sons, 26 (2d ed. 2010) (“The value of a stock investment that would give an investor a controlling position will generally reflect a control premium; that is, it will be higher than a valuation produced by a generic quantitative valuation expression that did not explicitly model such a premium.”).

⁶⁵ Source: Bloomberg, as of May 1, 2017.

⁶⁶ May 4, 2017, ConocoPhillips Press Release, “ConocoPhillips Provides Update to First-Quarter 2017 Results Based on Subsequent Partner Disclosures and Information.”

its market capitalization (\$56.8 billion on May 4, 2017), or an impact of only \$0.24 per share.⁶⁷ More specifically, for information to have a statistically significant impact on ConocoPhillips' stock price, using Dr. Ferrell's event study in Table 4, the new information would have to cause ConocoPhillips' stock price to change by at least 2.18%,⁶⁸ or \$1.00 per share,⁶⁹ or have a \$1.24 billion impact on its market capitalization.⁷⁰ A Shenandoah pre-tax expense of \$293 million, or \$0.26 per share, is significantly less than the \$1.24 billion, or \$1.00 per share, needed for the impact to meet Dr. Ferrell's benchmark for statistical significance.

29. Instead of recognizing the above economic reality, Dr. Ferrell analyzes ConocoPhillips' May 5, 2017 price decline, finds that price decline is not statistically significant, and opines that this somehow "indicates that the Shenandoah disclosures could not have had an impact on Anadarko's stock price on May 3, 2017."⁷¹ This flawed economic rationale is based, in part, on his incorrect premise that, "[i]f the stock price movement is [not statistically significant], the movement is fully explainable by movements in the market and industry and cannot be attributed to the new company-specific information announced on the event date."⁷² This is not true. In this case, the \$293 million write-off represented 0.5% of ConocoPhillips' market

⁶⁷ For information to have a statistically significant impact on ConocoPhillips' stock price, using Dr. Ferrell's event study in Table 4, the new information would have to cause ConocoPhillips' stock price to change by 2.18% ((-0.59% abnormal return) / (-0.53 t-statistic) * (1.96 statistically significant benchmark) = 2.18%), or \$1.00 per share (ConocoPhillips' \$45.92 per share closing price * 2.18%), or have an impact on its market capitalization of \$1.24 billion (ConocoPhillips' \$56.8 market capitalization * 2.18%).

⁶⁸ (-0.59% abnormal return/-0.53 t-statistic*1.96 statistically significant benchmark = 2.18%).

⁶⁹ (ConocoPhillips' \$45.92 per share closing price * 2.18% = \$1.00 per share).

⁷⁰ (ConocoPhillips' \$56.8 billion market capitalization * 2.18% = \$1.24 billion).

⁷¹ Ferrell Report, ¶¶17.b.ii., 61 & Table 4.

⁷² *Id.*, ¶25.

capitalization, and Dr. Ferrell's estimated abnormal return (or company-specific return, *i.e.*, ConocoPhillips' return net of market and industry factors) was even greater at negative 0.6%.⁷³ There is no economic basis for Dr. Ferrell's claim that the ConocoPhillips' 0.6% company-specific stock price decline on May 5, 2017, "cannot be attributed to" a write-off that represented 0.5% of its market capitalization because the decline was not statistically significant, and conclude that it therefore was "fully explainable by movements in the market and industry."⁷⁴

30. In short, Dr. Ferrell (a) analyzes ConocoPhillips' stock price decline on May 3, 2017 (following the Corrective Disclosure) and on May 5, 2017 (following ConocoPhillips' disclosure in response to the Corrective Disclosure), (b) finds that ConocoPhillips' stock price movements on these days were not statistically significant, and (c) incorrectly concludes that "[t]his indicates that the Shenandoah disclosures could not have had an impact on Anadarko's stock price on May 3, 2017."⁷⁵ Dr. Ferrell's opinion is incorrect for the reasons explained above, because he, among other things, failed to consider that the gross *and* relative economic impact was far greater for the smaller Anadarko than on ConocoPhillips, a much larger company. Consequently, the analysis performed by Dr. Ferrell regarding ConocoPhillips' price reactions on May 3, 2017 and May 5, 2017, is flawed, should not be relied upon, and provides no additional insight as to whether the Corrective Disclosure impacted Anadarko's stock price on May 3, 2017.

D. Cobalt May 3, 2017 price reaction demonstrates price impact

31. In contrast to ConocoPhillips, a more relevant Shenandoah partner to analyze is Cobalt. Despite having a smaller working interest in Shenandoah (20%) than ConocoPhillips (30%), Cobalt was a much smaller oil company with a market capitalization at the beginning of

⁷³ *Id.*, Table 4.

⁷⁴ *Id.*, ¶25.

⁷⁵ *Id.*, ¶17.b.ii.

May of less than \$200 million, so that any price impact on Cobalt's stock price would be more easily observable. While Cobalt was in financial distress, meaning that its stock price reaction would be muted as the downside for any stock is limited to \$0 per share, the Corrective Disclosure, if new and material, would still be expected to have some impact on Cobalt's stock price. Consistent with this expectation, on May 3, 2017, Bloomberg reported that "Cobalt International Energy [was] cut to sell from neutral at Citi as Anadarko noted in its IQ release suspension of further appraisal work at Shenandoah."⁷⁶ Also on May 3, 2017, Bernstein reportedly cut its target price for Cobalt from \$2.00 per share to \$1.20 per share, citing "Anadarko's disclosures effectively halting development of the Shenandoah field."⁷⁷ Furthermore, a May 3, 2017, Cowen analyst report similarly noted that "[w]e and our equity colleague ... who covers Anadarko, both believe that Anadarko put out disappointing news yesterday afternoon with respect to Shenandoah,"⁷⁸ and in a later analyst report on August 8, 2017, Cowen further explained that "[p]ost operator Anadarko's write-down to the [Shenandoah] project in its Q1 results, we (and the market) had been ascribing little value here."⁷⁹

32. According to Dr. Ferrell's own event study, Cobalt's abnormal (or company-specific) return on May 3, 2017, *i.e.*, following Anadarko's Corrective Disclosure, was negative 11.3%, and statistically significant.⁸⁰ This is affirmative evidence that Cobalt investors viewed Anadarko's suspension of further appraisal of the Shenandoah asset as new and material (or value-

⁷⁶ May 3, 2017, Bloomberg, "Cobalt Intl Cut at Citi as Anadarko Suspends Shenandoah Work."

⁷⁷ APC-00737640.

⁷⁸ May 3, 2017, Cowen & Co. analyst report, "Shenandoah Results A Negative."

⁷⁹ August 8, 2017, Cowen & Co. analyst report, "Uncertainties Remain Post Q2."

⁸⁰ Ferrell Report, Table 3.

relevant) information, and that this information quickly became reflected in Cobalt's stock price. It also supports my opinion that this new and material information negatively impacted Anadarko's stock price.

33. Dr. Ferrell states that he "reviewed analyst reports and news articles on Cobalt to identify firm-specific news that could have had a price impact on Cobalt's stock price on May 3, 2017."⁸¹ However, the only analyst/media report cited by him that involved new information on May 3, 2017, is the same Bloomberg article that I referenced above, which stated, in part: "APC's Shenandoah-6 appraisal results and choice to write-down investment will make it unlikely CIE will be able to execute any 'material' sale of its interest anytime soon."⁸² In other words, the only new information on May 3, 2017, cited by Dr. Ferrell is the Bloomberg article discussing an analyst report that stated that the Corrective Disclosure impacted the value of the Shenandoah asset, and that this therefore also impacted Cobalt. Consequently, Dr. Ferrell's own analysis supports my opinion that this new and material information also had a negative impact on Anadarko's stock price.

E. Dr. Ferrell's analysis of the Firestone explosion includes old information disclosed a week earlier, on April 26, 2017

34. As part of his price impact analysis, Dr. Ferrell focuses on the Firestone explosion, which he summarizes as follows:

Shortly after the filing of [Anadarko's] Form 10-Q, news that linked a cut abandoned gas flow line leading from an Anadarko well to a fatal house explosion in Firestone, Colorado was disclosed. At 4:51 PM on May 2, 2017, the *Denver Post* reported that fire investigators found a fatal house explosion on April 17, 2017 in Firestone, Colorado was caused by odorless gas seeping from a cut-off underground pipeline running from an Anadarko well into the house. Soon after the firefighters released their report, then Colorado Governor John Hickenlooper ordered oil and gas companies statewide to inspect and pressure-test oil and gas flowlines within 1,000 feet of occupied buildings. Related to this incident,

⁸¹ *Id.*, ¶58.

⁸² May 3, 2017, Bloomberg, "Cobalt Intl Cut at Citi as Anadarko Suspends Shenandoah Work."

Anadarko shut down 3,000 of its older, vertical oil and gas wells in northeastern Colorado as a precaution. In response to this news, at 5:18 PM, Anadarko issued a statement that it would “continue to cooperate fully with all ongoing investigations” and that it would “continue to work with the Colorado Oil and Gas Conservation Commission (COGCC) on additional steps or actions the agency deems necessary.” Analysts had an adverse reaction to this news. For example, a Macquarie analyst noted that “[t]he findings of the Firestone investigation are a clear negative for Anadarko” and that “Colorado is already one of the most stringently regulated states in the nation in respect to energy and is likely to see increased pressure following this incident.” One analyst estimated that at a cost of \$100,000 per well, the total remediation cost alone could be \$140 million.⁸³

35. The above summary in the Ferrell Report is misleading. May 2, 2017 was not the first time Anadarko had been connected to an April 17, 2012 fatal house explosion in Firestone, Colorado. While Dr. Ferrell listed sources from only May 2, 2017 and May 3, 2017, the link between the Firestone explosion and Anadarko had been disclosed days earlier – after the market closed on April 26, 2017, including a press release in which Anadarko disclosed one of its wells was only 200 feet from the home and that the Company had unilaterally decided to shut down 3,000 vertical wells.⁸⁴ As such, investors were informed, after the market closed on April 26, 2017 – a full week before May 3, 2017, that the Company (a) operated the well closest to, and was thus

⁸³ Ferrell Report, ¶14.

⁸⁴ April 26, 2017, Anadarko Press Release, “Anadarko Issues Statement Regarding Colorado Operations” (“While there is still much that is not yet known regarding the potential contributing factors, Anadarko operates an older vertical well that was drilled by a previous operator in 1993 and is located approximately 200 feet from where the home was recently built. As such, the company has been working cooperatively with fire officials and state regulatory agencies in their investigations since the time of the accident.”); *see also id.* (“While these events remain under active investigation and much remains to be determined, in an abundance of caution, since the company operates more than 3,000 producing vertical wells of the same vintage, it has taken proactive measures to shut in all vertical wells across the counties in northeast Colorado where it operates. The wells will remain shut in until the company’s field personnel can conduct additional inspections and testing of the associated equipment, such as facilities and underground lines associated with each wellhead. Particular focus is being placed on areas where housing and commercial developments are occurring in close proximity to existing infrastructure. The wells will not be restarted until each has undergone and passed these additional inspections. Anadarko currently anticipates the process will take two to four weeks, depending on weather. The wells currently account for total production of about 13,000 net barrels of oil equivalent per day.”).

the most likely cause of, the explosion; (b) would experience some impact from the Firestone explosion, including the Company's results for 2Q2017 due to the 3,000 wells shut in; and, most importantly, (c) that the Firestone explosion could result in additional Colorado energy regulation, which would impact other Colorado companies as well.

36. Following the April 26, 2017 disclosure, an Evercore analyst report opined that the "value implication directly associated with the shut-in production and any physical remediation is likely immaterial for APC," but also noted broader concerns regarding the Colorado regulatory environment and noted that "DJ basin exposed peers underperformed today on sympathy (NBL, SRC, XOG, PDCE)."⁸⁵ Wells Fargo also opined that the specific impact on Anadarko was "not that meaningful," but that the potential impact on the Colorado regulatory environment had other DJ producers "feel[ing] some pressure resulting from this incident includ[ing] NBL and PDCE and to a lesser extent XOG and SRCL."⁸⁶ Finally, in an April 27, 2017 note, Tudor Pickering stated that the wells represent a tiny fraction of Anadarko's oil and natural-gas output, but the blast raises the risk of tougher regulation for the industry.⁸⁷ While the specific Anadarko impact from the Firestone explosion was limited, the incident resulted in significant concerns regarding Colorado's overall energy regulatory environment back in April 2017 that not only impacted Anadarko, but also other companies operating there.

37. Dr. Ferrell also cites to a potential \$140 million in remediation costs as a result of Colorado regulatory scrutiny. However, this is significantly less than the \$902 million in

⁸⁵ April 27, 2017, Evercore analyst report, "APC Colorado Shut-ins."

⁸⁶ April 27, 2017, Wells Fargo analyst report, "APC: Statement On Colorado Explosion."

⁸⁷ May 2, 2017, Bloomberg at 4:43 p.m., "Anadarko Profit Misses Estimates Even as Driller Boosts Output."

Shenandoah write-offs and would also impact other operators in Colorado, *i.e.*, this impact can be controlled for using a properly constructed event study, as I will demonstrate below.

F. Dr. Ferrell's analysis of the Firestone explosion is incomplete and ignores evidence that demonstrates Shenandoah price impact

38. Dr. Ferrell's chronology of the events after the market closed on May 2, 2017, is incomplete. Dr. Ferrell correctly notes that Anadarko issued its 1Q2017 results at 4:16 p.m., which included the Corrective Disclosure – lower than expected earnings due to the Shenandoah write-offs, as well as a specific disclosure explaining that the Company was suspending its appraisal activity for the Shenandoah.⁸⁸ However, he ignores a Bloomberg report 8 minutes later at 4:24 p.m. with the headline “Anadarko 1Q Adjusted Loss Per Share Wider Than Est.; Shares fall,” stating that “[s]hares down 3.5% since earnings release.”⁸⁹ He also ignores a May 2, 2017 Bloomberg article issued at 4:43 p.m. stating that “[Anadarko] reported a loss that missed estimates despite sales volumes that surged 20 percent,” and that the Anadarko shares “dropped 4.1 percent in after-hours trading as of 4:42 p.m. in New York.”⁹⁰ Again, this Anadarko price decline occurred after the Company's 4:16 p.m. earnings release on May 2, 2017.⁹¹ This earnings

⁸⁸ Ferrell Report, ¶13.

⁸⁹ May 2, 2017, Bloomberg at 4:24 p.m., “Anadarko 1Q Adjusted Loss Per Share Wider Than Est.; Shares Fall.”

⁹⁰ May 2, 2017, Bloomberg at 4:43 p.m., “Anadarko Profit Misses Estimates Even as Driller Boosts Output.” Investopedia.com, “Premarket and After-Hours Trading on the NYSE and the Nasdaq” (“The stock market, or technically speaking, the U.S. stock market exchanges—particularly the New York Stock Exchange (NYSE) and Nasdaq—are, typically, open between 9:30 a.m. and 4 p.m. Eastern Time (ET). However, with the adoption of new technology and increased demand for trading, these hours have been extended to include what is known as pre-market and after-hours trading. Some of the most important market moves can take place outside the NYSE and Nasdaq's regular trading sessions.”).

⁹¹ Ferrell Report, ¶13; May 2, 2017, Anadarko Press Release at 4:16 p.m., “Anadarko Announces First-Quarter 2017 Results.”

release disclosed that the Company's 1Q2017 losses far exceeded expectations, and these losses were the result of the Shenandoah write-off.⁹² However, the decline in Anadarko's stock price occurred before the first Firestone news identified by Dr. Ferrell, a Denver Post article published at 4:51 p.m.⁹³ Consequently, the Firestone news identified by Dr. Ferrell could not have caused the earlier 4.1% decline in Anadarko's stock price.

G. Dr. Ferrell's analysis of Colorado peers identifies a confounding factor, but not an absence of Shenandoah price impact

39. Dr. Ferrell notes that Colorado Governor John Hickenlooper "ordered oil and gas companies statewide to inspect and pressure-test oil and gas flowlines within 1,000 feet of occupied buildings."⁹⁴ Again, a more restrictive Colorado energy regulatory environment was something analysts had expressed concerns about for Colorado operators, including Anadarko, since April 2017.⁹⁵ In fact, I already testified to this issue at my deposition, which Dr. Ferrell cites

⁹² May 3, 2017, UBS analyst report, "Large Exploration Expense Drives 1Q17 EPS/CFPS Miss but EBITDX Beats; Maintains 2017 Guidance" ("Clean 1Q EPS (loss) of (\$0.60) was much wider than UBSe of (\$0.28) & consensus of (\$0.24) with the miss vs. UBSe driven entirely by a much higher than expected exploration expense due to the dry hole at Shenandoah-6 (impacting EPS by >\$0.30/share).").

⁹³ Ferrell Report, ¶14 fn. 22.

⁹⁴ *Id.*, ¶14 fn. 23.

⁹⁵ May 2, 2017, Bloomberg at 4:43 pm, "Anadarko Profit Misses Estimates Even as Driller Boosts Output" ("Shares dropped last week [April 27, 2017] after the company said it would close 3,000 Colorado wells as part of an investigation into a deadly house explosion earlier in April. The wells represent a tiny fraction of Anadarko's oil and natural-gas output, but the blast raises the risk of tougher regulation for the industry, analysts at Houston investment bank Tudor Pickering Holt & Co. said in an April 27 note.").

in his report.⁹⁶ Dr. Ferrell correctly observes that other companies exposed to the Colorado regulatory environment experienced declines in their respective stock prices on May 3, 2017.⁹⁷

40. The above ends the usefulness of Dr. Ferrell's Firestone analysis, however, because he then, based on his incomplete analysis of the other Colorado operators, incorrectly concludes that "the news about the fire and explosion in Firestone, Colorado explains Anadarko's price decline on May 3, 2017."⁹⁸ While his analysis of the other Colorado operators may indicate that the Firestone explosion's potential impact on the Colorado regulatory environment could be a contributing/confounding factor in this case, it does not mean, therefore, that it "explains Anadarko's price decline on May 3, 2017," only that it may explain a portion of it, if at all. Below I perform a proper event study to account for news relating to the Firestone explosion.

41. Dr. Ferrell also states that Anadarko's production guidance was "seen as disappointing by some analysts," but he did not perform any economic analyses to demonstrate that this "disappointment" materially impacted Anadarko's stock price.⁹⁹ Nor did he provide any insights into how the purported "disappointment" regarding Anadarko's production guidance could have explained any portion of Anadarko's May 3, 2017 price decline given that he already concluded that "the fire and explosion in Firestone, Colorado explain[ed] Anadarko's price decline on May 3, 2017."¹⁰⁰ Nor did Dr. Ferrell explain why his discussion about the production guidance

⁹⁶ Ferrell Report, ¶165 fn. 137 ("In his deposition, Mr. Steinholt indicated that 'changes to the regulatory environment would not only impact Anadarko, it would impact all the companies doing business in Colorado.'") (quoting Steinholt Deposition at 29:8-11); *id.*, ¶165 fn. 138 ("In his deposition, Mr. Steinholt acknowledged that Noble 'probably was impacted by the Firestone issue.'") (quoting Steinholt Deposition at 28:8-10).

⁹⁷ *Id.*, Figure 1.

⁹⁸ *Id.*, ¶66.

⁹⁹ *Id.*, ¶67.

¹⁰⁰ *Id.*, ¶66.

ignored the fact that the Company's overall guidance for FY2017 was unchanged (*infra*, fn. 104). In other words, Dr. Ferrell did not provide any economic analysis demonstrating that the production guidance represents a material confounding factor that should be accounted for in a price impact analysis.

H. Event study controlling for the Firestone explosion demonstrates Shenandoah price impact

42. Dr. Ferrell states that "[t]here is a widely used and generally accepted statistical framework known as an event study for testing whether there was, in fact, a stock price movement associated with the disclosure of new value-relevant public information."¹⁰¹ However, he did not actually perform an event analysis to quantify the impact, if any, of the Corrective Disclosure on Anadarko's stock price on May 3, 2017. Consequently, I do so below.

43. First, the event in this case is the Corrective Disclosure of Anadarko's suspension of further appraisal work on Shenandoah, resulting in an impairment charge of \$467 million and the write-off of \$435 million of exploratory well costs, totaling \$902 million, which was part of the Company's earnings announcement disclosed shortly after the market closed on May 2, 2017.¹⁰² There is evidence of a 4.1% price decline immediately after that announcement in after-market trading on May 2, 2017 (*see supra*, ¶38). However, the event study is based on daily trading data, analyzing the difference between the May 2, 2017 closing price and the May 3, 2017 closing price. Thus, because the Corrective Disclosure occurred after the market closed on May 2, 2017, I measure the price impact on May 3, 2017.

¹⁰¹ *Id.*, ¶23.

¹⁰² Complaint, ¶152; May 2, 2017, Anadarko Press Release, "Anadarko Announces First-Quarter 2017 Results"; Anadarko Form 10-Q for 1Q2017, filed with the SEC on May 2, 2107; May 3, 2017 conference call prior to market open.

44. Second, the S&P 500 was used as a proxy for the market factors, and a Peer Group index of the Colorado peer companies identified by Dr. Ferrell was used as a proxy for the industry (the "Colorado Peer Group").¹⁰³ The Colorado Peer Group was specifically designed to make sure that factors related to increased regulatory concerns in Colorado as a result of the Firestone explosion were reflected and accounted for in the index. In addition to information related to Shenandoah and Firestone, Anadarko also reported core 1Q2017 performance (excluding Shenandoah) that was generally "in-line" with expectations, and provided guidance for the full year 2017 that was unchanged.¹⁰⁴ Consequently, it is my opinion that, in the aggregate, the 1Q2017 results reported (excluding Shenandoah) and the Company's guidance, would not be expected to materially impact Anadarko's stock price on May 3, 2017. Nor did Dr. Ferrell identify any potentially material confounding factor, other than the Firestone issue, that would need to be accounted for in the event study.

45. To test whether my event study actually accounted for the Firestone issue as intended, I first analyzed Anadarko's stock price decline following Anadarko's Firestone disclosure after the market closed on April 26, 2017. In the Steinholt Report, when analyzing market efficiency, using oil companies identified by Anadarko in the Peer Group, the Company's

¹⁰³ The Colorado Peer Group included the following three of the four companies Dr. Ferrell specifically identified as being impacted by the Firestone explosion, equally weighted: Noble Energy, PDC Energy, and SRC Energy. Ferrell Report, Figure 1. Extraction O&G was not included as it only went public in October 2016, and therefore did not have sufficient trading data for the one-year (252-trading days) control period prior to April 27, 2017. Including Extraction O&G for a shorter control period would not have changed the determination of statistical significance.

¹⁰⁴ May 2, 2017, RBC Capital Markets analyst report, "Market Focus May Be Elsewhere" ("Core results look good but results at Shenandoah and the well incident in the DJ could cause some market concern.... 2017 Guidance maintained. There were no material changes to the \$4.5-4.7 billion capital budget and 644-655 Mboe/d production guidance.").

stock price reaction on April 27, 2017, was statistically significant at the 5% level.¹⁰⁵ However, using the companies in the Colorado Peer Group significantly reduces the abnormal return so that the April 27, 2017 price decline is no longer statistically significant at the 5% level.¹⁰⁶ In other words, the event study now controls for the Firestone issue as it was designed to do.

46. Here, the Corrective Disclosure occurred after the market closed on May 2, 2017, meaning that the relevant price impact would be captured in the closing price on May 3, 2017. Replacing the original Peer Group with the Colorado Peer Group reduces the abnormal return, but the May 3, 2017 price decline is *still* statistically significant at the 1% level (*i.e.*, a higher benchmark than the 5% level used by Dr. Ferrell).¹⁰⁷ Moreover, the estimated abnormal return of 3.89% is less than the 4.1% decline immediately following the Corrective Disclosure *but prior to the Firestone disclosure* on May 2, 2017 in the Denver Post article identified by Dr. Ferrell.¹⁰⁸ In other words, even after specifically controlling for the only potential material confounding factor Dr. Ferrell identifies (Firestone), Anadarko's stock price decline on May 3, 2017, was still highly statistically significant. The result of this event study represents clear and affirmative evidence that the Corrective Disclosure had price impact.

¹⁰⁵ Steinholt Report, ¶37 & fn. 50; *id.*, Exhibit D at 14. Anadarko's raw return was -4.74%; its predicted return was -2.07%; its abnormal return was -2.66%; its t-statistic was -2.43; which is statistically significant at the 5% level.

¹⁰⁶ Anadarko's raw return was -4.74%; its predicted return was -2.84%; its abnormal return was -1.89%; its t-statistic was -1.45; which is not statistically significant at the 5% level.

¹⁰⁷ Anadarko's May 3, 2017 raw return was -7.69%; its predicted return was -3.81%; its abnormal return was -3.89%; its t-statistic was -2.97; which is statistically significant at the 1% level.

¹⁰⁸ *Supra*, ¶38.

IV. DR. FERRELL'S CRITICISMS OF THE DAMAGES METHODOLOGY RELY ON MISCHARACTERIZATIONS OF MY EVENT STUDY FRAMEWORK AND LEAD PLAINTIFF'S THEORY OF LIABILITY

47. Dr. Ferrell incorrectly claims that "Mr. Steinholt testified that it was irrelevant for him to know what Plaintiff's theory of liability is,"¹⁰⁹ and that, therefore, how my event study framework applies to different theories "is left entirely unexplained."¹¹⁰ The specific theory of liability he claims I have not sufficiently addressed is one that Dr. Ferrell made up himself, the "materialization of an undisclosed risk" theory of liability.¹¹¹ Dr. Ferrell's theory is not found anywhere in the Complaint. In fact, the actual allegation in the Complaint is that Defendants failed to disclose that the "risks had already materialized as to the Shenandoah resource."¹¹² Furthermore, Dr. Ferrell failed to explain why my framework based on the event study, refined by fundamental valuation tools, if necessary, could not be used to estimate the impact of a particular risk materializing, even if one was to accept his supposition. Dr. Ferrell's criticism is baseless and thus should be disregarded.

V. CONCLUSION

48. Based on my review and analysis of the available information, as explained in greater detail above, it is my opinion that the Corrective Disclosure in this case negatively impacted

¹⁰⁹ Ferrell Report, ¶17.d. To support his mischaracterization that it is "irrelevant" to me what Lead Plaintiff's theory of liability is, he cites my deposition testimony in which I simply explained that independent experts make up their own minds regarding the existence or magnitude of any inflation. Steinholt Deposition at 69:15-25 ("Well, from a damage expert's point of view, it's irrelevant what Plaintiffs allege with respect to the inflation, it's up to the expert to determine what the inflation is. So I would discard any economic claims that are being made in the Complaint and I would look at it myself. And if I think it's zero, it's zero, it doesn't matter what they say in the Complaint.").

¹¹⁰ Ferrell Report, ¶17.d.

¹¹¹ *Id.*

¹¹² Complaint, ¶¶98, 116.

the price of Anadarko's common stock at the end of the Class Period. Among other things, my opinion is supported by the following:

- The suspension of Shenandoah and corresponding \$902 million in write-offs was new, economically material information that, in an efficient market, would be expected to significantly impact Anadarko's stock price.
- Analyst downgrades and price impact for Shenandoah partner Cobalt's stock price relating to Anadarko's Corrective Disclosure.
- Anadarko's stock price declined 4.1% in after-market trading on May 2, 2017, after the Corrective Disclosure, but before the lone confounding factor identified by Dr. Ferrell.
- An event study that specifically controls for the confounding factor identified by Dr. Ferrell demonstrates that Anadarko's stock price decline on May 3, 2017, was statistically significant, and, thereby, affirmatively demonstrates price impact.

49. Furthermore, it remains my opinion as set forth in the Steinholt Report that, based on my experience as a damages expert and consultant in numerous other securities fraud cases similar to this one, class-wide damages can be calculated using the widely accepted event-study methodology, refined by fundamental valuation tools if necessary.

Executed this 2nd day of February, 2022.

Respectfully submitted,


Bjorn I. Steinholt, CFA